REFERENCES 75

[12] J. Cabrera-Arteaga, M. Monperrus, and B. Baudry, "Scalable Comparison of JavaScript V8 Bytecode Traces," in *Proceedings of the 11th ACM SIGPLAN* International Workshop on Virtual Machines and Intermediate Languages, VMIL at SPLASH 2019, pp. 22–31, 2019.

- [13] NSA, "National Cyber Leap Year." https://www.nitrd.gov/nitrdgroups/index.php?title=National\_Cyber\_Leap\_Year, 2021.
- [14] G. Goth, "Addressing the Monoculture," *IEEE Security & Privacy*, vol. 1, no. 06, pp. 8–10, 2003.
- [15] T. Rokicki, C. Maurice, M. Botvinnik, and Y. Oren, "Port Contention Goes Portable: Port Contention Side Channels in Web Browsers," in ASIA CCS '22: ACM Asia Conference on Computer and Communications Security, pp. 1182–1194, 2022.
- [16] S. Song, S. Park, and D. Kwon, "metaSafer: A Technique to Detect Heap Metadata Corruption in WebAssembly," *IEEE Access*, vol. 11, pp. 124887– 124898, 2023.
- [17] D. Lehmann, J. Kinder, and M. Pradel, "Everything Old is New Again: Binary Security of WebAssembly," in 29th USENIX Security Symposium, pp. 217–234, 2020.
- [18] Q. Stiévenart, C. D. Roover, and M. Ghafari, "Security Risks of Porting C Programs to Webassembly," in SAC '22: The 37th ACM/SIGAPP Symposium on Applied Computing, pp. 1713–1722, 2022.
- [19] D. Genkin, L. Pachmanov, E. Tromer, and Y. Yarom, "Drive-by Keyextraction Cache Attacks from Portable Code," *IACR Cryptol. ePrint Arch.*, p. 119, 2018.
- [20] G. Maisuradze and C. Rossow, "ret2spec: Speculative Execution Using Return Stack Buffers," in *Proceedings of the 2018 ACM SIGSAC Conference on Computer and Communications Security, CCS*, pp. 2109–2122, 2018.
- [21] M. Musch, C. Wressnegger, M. Johns, and K. Rieck, "Thieves in the Browser: Web-based Cryptojacking in the Wild," in *Proceedings of the* 14th International Conference on Availability, Reliability and Security, ARES 2019, Canterbury, UK, August 26-29, 2019, pp. 4:1–4:10, ACM, 2019.
- [22] E. Tekiner, A. Acar, A. S. Uluagac, E. Kirda, and A. A. Selçuk, "Inbrowser Cryptomining for Good: An Untold Story," in *IEEE International Conference on Decentralized Applications and Infrastructures, DAPPS 2021, Online Event, August 23-26, 2021*, pp. 20–29, IEEE, 2021.

76 REFERENCES

[23] R. K. Konoth, E. Vineti, V. Moonsamy, M. Lindorfer, C. Kruegel, H. Bos, and G. Vigna, "MineSweeper: An In-depth Look into Drive-by Cryptocurrency Mining and Its Defense," in *Proceedings of the 2018 ACM SIGSAC Conference* on Computer and Communications Security, CCS, pp. 1714–1730, 2018.

- [24] A. Romano, Y. Zheng, and W. Wang, "MinerRay: Semantics-aware Analysis for Ever-evolving Cryptojacking Detection," in 35th IEEE/ACM International Conference on Automated Software Engineering, ASE 2020, Melbourne, Australia, September 21-25, 2020, pp. 1129–1140, IEEE, 2020.
- [25] F. N. Naseem, A. Aris, L. Babun, E. Tekiner, and A. S. Uluagac, "MINOS: A Lightweight Real-time Cryptojacking Detection System," in 28th Annual Network and Distributed System Security Symposium, NDSS 2021, virtually, February 21-25, 2021, The Internet Society, 2021.
- [26] W. Wang, B. Ferrell, X. Xu, K. W. Hamlen, and S. Hao, "SEISMIC: SEcure In-lined Script Monitors for Interrupting Cryptojacks," in *Computer Security* - 23rd European Symposium on Research in Computer Security, ESORICS, vol. 11099, pp. 122–142, 2018.
- [27] J. D. P. Rodriguez and J. Posegga, "RAPID: Resource and API-based Detection Against In-browser Miners," in *Proceedings of the 34th Annual Computer Security Applications Conference, ACSAC 2018, San Juan, PR, USA, December 03-07, 2018*, pp. 313–326, ACM, 2018.
- [28] A. Kharraz, Z. Ma, P. Murley, C. Lever, J. Mason, A. Miller, N. Borisov, M. Antonakakis, and M. Bailey, "Outguard: Detecting In-browser Covert Cryptocurrency Mining in the Wild," in *The World Wide Web Conference*, WWW, pp. 840–852, 2019.
- [29] H. Okhravi, M. Rabe, T. Mayberry, W. Leonard, T. Hobson, D. Bigelow, and W. Streilein, "Survey of Cyber Moving Targets," Massachusetts Inst of Technology Lexington Lincoln Lab, No. MIT/LL-TR-1166, 2013.
- [30] F. B. Cohen, "Operating System Protection Through Program Evolution.," Computers & Security, vol. 12, no. 6, pp. 565–584, 1993.
- [31] S. Forrest, A. Somayaji, and D. Ackley, "Building Diverse Computer Systems," in *Proceedings. The Sixth Workshop on Hot Topics in Operating Systems (Cat. No.97TB100133)*, pp. 67–72, 1997.
- [32] M. Eichin and J. Rochlis, "With microscope and tweezers: an analysis of the Internet virus of November 1988," in *Proceedings. 1989 IEEE Symposium on Security and Privacy*, pp. 326–343, 1989.
- [33] J. Cabrera-Arteaga, O. F. Malivitsis, O. L. Vera-Pérez, B. Baudry, and M. Monperrus, "CROW: Code Diversification for WebAssembly," CoRR, vol. abs/2008.07185, 2020.